

WHAT IS CLAIMED IS:

1. A signal receiving apparatus for converting a received high frequency signal down to a baseband signal for processing, said apparatus comprising:

an analog control AGC having a continuously varying gain; and

a step control AGC connected to said analog control AGC, said step control AGC having a gain switched in steps,

wherein one of said analog control AGC and said step control AGC controls the gain of said baseband signal, and the other of said analog control AGC and said step control AGC controls the gain of the gain controlled baseband signal.

2. A receiving apparatus according to claim 1, further comprising:

a memory for storing an offset signal in accordance with a gain changeable width upon switching the gain of said step control AGC; and

a controller for reading said offset signal from said memory to control a signal for controlling the gain of said analog control AGC in accordance with said offset signal substantially at the same timing as or at a timing earlier than a timing at which the gain of said step control AGC is switched.

3. A receiving apparatus according to claim 1 or 2, further comprising:

an amplifier for amplifying said received

high frequency signal, said amplifier having a gain switched in steps; and

a frequency converter for converting the high frequency signal from said amplifier down to the baseband signal,

wherein the gain of said step control AGC is switched at a first reception level, and the gain of said amplifier is switched at a second reception level higher than the first reception level.

4. A receiving apparatus according to claim 1 or 2, further comprising:

an amplifier for amplifying said received high frequency signal, said amplifier having a gain switched in steps; and

a frequency converter for converting the high frequency signal from said amplifier down to the baseband signal,

wherein the gain of said step control AGC is switched at a first reception level when the reception level is increasing, and at a second reception level different from the first reception level when the reception level is decreasing;

the gain of said amplifier is switched at a third reception level when the reception level is increasing, and at a fourth reception level different from the third reception level when the reception level is decreasing; and

the first reception level and the second

reception level are lower than the third reception level and the fourth reception level, respectively.

5. An incoming signal processing method for converting a received high frequency signal down to a baseband signal for processing, said method comprising one of the following steps of:

a) controlling the gain of the baseband signal in accordance with the level of the received signal, and continuously controlling the gain of the gain controlled signal in accordance with the level of the received signal; and

b) continuously controlling the gain of the baseband signal in accordance with the level of the received signal, and controlling the gain of the gain controlled signal in steps in accordance with the level of the received signal.

6. An incoming signal processing method for converting a received high frequency signal down to a baseband signal for processing, said method comprising the step of:

controlling the gain of the baseband signal using one of an analog control AGC having a continuously varying gain and a step control AGC having a gain switched in steps, and further controlling the gain of the gain controlled signal with the other of said analog control AGC and said step control AGC.

7. An incoming signal processing method according to claim 6, further comprising the step of:

controlling a signal for controlling the gain of said analog control AGC in accordance with an offset signal associated with a gain changeable width upon switching the gain of said step control AGC at the same timing as or at a timing earlier than a timing at which the gain of said step control AGC is switched.

8. An incoming signal processing method according to claim 6 or 7, further comprising the step of:

amplifying the received high frequency signal by an amplifier having a gain switched in steps, wherein:

the gain of said step control AGC is switched at a first reception level; and

the gain of said amplifier is switched at a second reception level higher than the first reception level.

9. An incoming signal processing method according to claim 6 or 7, further comprising the step of:

amplifying the received high frequency signal by an amplifier having a gain switched in steps,

wherein the gain of said step control AGC is switched at a first reception level when the reception level is increasing, and at a second reception level different from the first reception level when the reception level is decreasing;

the gain of said amplifier is switched at a

third reception level when the reception level is increasing, and at a fourth reception level different from the third reception level when the reception level is decreasing; and

the first reception level and the second reception level are lower than the third reception level and the fourth reception level, respectively.